Claims

1. A carcass structure for vehicle wheel tyres, comprising:

at least a carcass ply (3) comprising a first and a second series of strip-like segments (13, 14) consecutively arranged along the circumferential development of the carcass structure (2), each of which extends according to a substantially "U" shaped conformation and comprises at least two filiform element (15) positioned longitudinally and parallel to each other and at least partially coated by at least a layer of raw elastomeric material (18), and

a pair of annular reinforcing structures (4) each engaged in proximity to a respective interior circumferential edge of the carcass ply (3),

characterised in that each of said annular reinforcing structures (4) comprises at least a primary portion (4a) presenting an axially interior side oriented towards terminal edges (19a) of the segments belonging to the first series (13) and an axially exterior side oriented towards terminal edges (20a) of the segments belonging to the second series (14), and

at least an additional portion (24) positioned against the terminal edges (20a) of the strip-like segments belonging to the second series (14), on the opposite side relative to said primary portion (4a) of the annular structure itself; wherein said primary portion comprises

a first circumferentially inextensible annular insert (23) shaped substantially in the manner of an annulus positioned coaxially to the carcass structure (2) and adjacently to an interior circumferential edge of the carcass ply (3), said first annular insert (23) being formed by at least an elongated element extending according to concentric turns (23a);

a filling body (25) made of elastomeric material presenting a side united to the

first annular anchoring insert (23);
at least a second circumferentially inextensible annular insert (24) shaped substantially in the manner of an annulus, formed by at least an elongated element extending according to concentric turns (23a) and positioned coaxially to the carcass structure (2) in a position set axially side by side to the filling body (25) and laterally opposite relative to the first annular insert (23);
and wherein said additional portion (24) comprises at least a third circumferentially inextensible annular insert (26) shaped substantially in the manner of a circular crown, formed by at least an elongated element extending according to concentric turns and positioned coaxially to the carcass structure (2) and adjacently to an interior circumferential edge of the carcass ply (3).

2. A carcass structure as claimed in claim 1, wherein said first and second series of strip-like segments (13, 14) are arranged in mutually alternated sequence along the entire circumferential development of the carcass structure.

3. A carcass structure as claimed in claim 2, wherein each of said strip-like segments (13, 14) presents two lateral portions (19, 20) developing substantially towards a geometric axis of said carcass structure in positions that are mutually distanced in the axial direction, and a crown portion (21, 22) extending in a radially exterior position between the lateral portions (19, 20),
the crown portions (21, 22) belonging respectively to the segments of the first and second series (13, 14) being set mutually side by side along their circumferential development of the carcass structure (2).

4. A carcass structure as claimed in claim 1, characterised in that said third

and second annular insert (24, 26) present each a lesser radial extension than the radial extension of the first annular insert (23).

5. A carcass structure as claimed in claim 4, wherein the third circumferentially inextensible annular insert (26) presents a lesser radial extension ranging between 1/3 and 2/3 of the radial extension of the first circumferentially inextensible annular insert (23).

6. A carcass structure as claimed in claim 4, wherein the second circumferentially inextensible annular insert (24) presents a lesser radial extension ranging between 1/3 and 2/3 of the radial extension of the first circumferentially inextensible annular insert (23).

7. A carcass structure as claimed in claim 1, further comprising an auxiliary filling body (27) made of elastomeric material situated in an axially exterior position against said at least one carcass ply and extending radially away from said third annular insert (26).

8. A carcass structure as claimed in claim 6, wherein the hardness value of the auxiliary filling body (27) is substantially equal to the hardness of the filling body (25).

add a7

ins a6